

Appl. No. 10/008,311
Amtd. dated April 16, 2004
Reply to Office Action of Dec. 16, 2003

REMARKS/ARGUMENTS

This Amendment is accompanied by a Petition For A One-Month Extension of Time, along with an authorization to charge the Deposit Account of Applicant's counsel's law firm for the one-month extension fee for a small entity.

The specification has been amended above to correct two typographical numbering errors.

Within the Office Action, the Examiner indicated that dependent claim 4 would be considered allowable if such claim were re-written in independent form including the limitations of base claim 1 and intervening dependent claim 2. Applicant has amended claim 4 above in the manner suggested by the Examiner, and Applicant submits that claim 4 should now be in allowable form.

Within the Office Action, the Examiner rejected claim 1 under 35 U.S.C. §103(a) as describing subject matter considered by the Examiner to be obvious from U.S. Patent No. 4,276,921 ("Lemmens") when considered in view of U.S. Patent No. 4,069,838 ("Hansel"). The Examiner rejected claims 2 and 3 under 35 U.S.C. §103(a) as describing subject matter considered by the Examiner to be obvious from Lemmens and Hansel when considered in further view of U.S. Patent No. 2,588,672 ("Turvey").

Claim 1 has been amended to recite, within sub-paragraph (b), "a fluid reservoir for dispensing slurry onto the moving belt, the moving belt forming at least a portion of the floor of the fluid reservoir". Referring to Fig. 1 of Applicant's drawings, it will be seen that moving belt 14 forms at least a portion of the floor of slurry reservoir 15. More specifically, Applicant's specification describes "a slurry reservoir 15 which includes a front wall 16 (also known as a "blade"), a rear wall 18, and two connecting side walls (not shown) extending therebetween to form a box-like container positioned over moving belt 14"; Applicant's specification further states that "reservoir 15 is filled with a supply of slurry 20 that is dispensed onto moving belt 14". Accordingly, Applicant's specification provides support for the amended language of claim 1.

Claim 1, as amended, further recites that the lens is "disposed near the moving belt above said fluid reservoir for receiving light reflected from the upper surface of the slurry within the

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fluid reservoir before the slurry passes beyond said blade, and for detecting the height of the slurry within the fluid reservoir". As shown in Fig. 1 of Applicant's drawings, lens 30 is disposed above slurry reservoir 15 for detecting the height of slurry 20 within reservoir 15 before such slurry passes beyond blade 16.

In contrast, the cited Lemmens patent discloses a process for the continuous casting of metal wherein a mold cavity is formed by upper and lower moving belts 2 and 3, respectively. The Examiner apparently contends that Lemmens' conduit 12 is a "reservoir", and that the short wall that defines the outlet of element 12 is a "blade". However, claim 1 now recites that the moving belt forms at least a portion of the floor of the fluid reservoir, and that the lens is "disposed ... above said fluid reservoir for receiving light reflected from the upper surface of the slurry within the fluid reservoir before the slurry passes beyond said blade, and for detecting the height of the slurry within the fluid reservoir". This is not the structure shown by Lemmens. Rather, in Lemmens, opto-electronic device 17 is directed at molten copper that has already passed beyond the "reservoir" and beyond the "blade" of element 12. In Lemmens, opto-electronic device 17 is used to detect the level of the molten metal wave surging against the upper moving belt 2; see Lemmens, col. 5, lines 35-40. Lemmens' device 17 does not detect the height of molten copper within element 12. The additional references cited by the Examiner do not appear to remedy this deficiency in the cited Lemmens patent.

Accordingly, claim 1 as amended, and dependent claims 2 and 3, are patentably distinguishable from the prior art relied upon by the Examiner to reject such claims within the Office Action.

New claim 5 has been added by amendment above. New claim 5 is similar to amended claim 1, but new claim 5 omits the requirement that the moving belt form part of the floor of the slurry reservoir. Nonetheless, new claim 5 requires that the lens be disposed above the fluid reservoir for receiving light reflected from the upper surface of the slurry within the fluid reservoir before the slurry passes beyond the blade, for detecting the height of the slurry within the fluid reservoir. Once again, Lemmens fails to teach or suggest such a structure, and the other

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art relied upon by the Examiner does not suggest a modification of Lemmens to provide such claimed features.

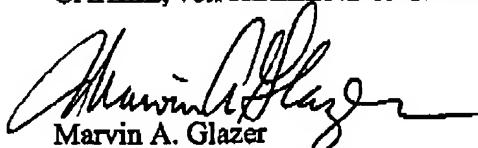
Finally, both claims 1 and 5 as amended require that the lens be disposed "near the moving belt". In contrast, Lemmens states that the disclosed opto-electronic device 17 should be "located at a distance of about 4.5 m from the inlet opening 9" of mold cavity 8; see col. 5, lines 24-25. In contrast, Applicant's lens 30 is disposed near the moving belt, yet the fiber optic cable safely maintains the electrical light sensor remote from the slurry. Even if Hansel's fiber optic cable were used in conjunction with Lemmens' device 17, there would still be no teaching or suggestion to position a light gathering lens closer to the moving belts of Lemmens.

Applicant will soon submit formal drawing under separate cover to be substituted for the informal drawings originally filed in the present application.

For the forgoing reasons, Applicant respectfully submits that the present application is now in condition for allowance.

Respectfully submitted,

CAHILL, von HELLENS & GLAZER P.L.C.



Marvin A. Glazer
Registration No. 28,801

155 Park One
2141 East Highland Avenue
Phoenix, Arizona 85016
Ph. (602) 956-7000
Fax (602) 495-9475